

Powerine Oil Company

March 5, 1998

Mr. David Klunk
Santa Fe Springs Fire Department
11300 Greenstone Avenue
Santa Fe Springs, CA 90670

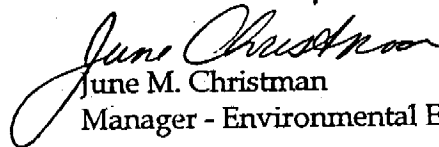
Dear Mr. Klunk:

Attachment "A" is Powerine's response to questions asked by the Santa Fe Springs and City of Vernon Fire Departments after conducting the pre-startup safety review of our HF acid neutralization process.

The Santa Fe Springs Fire Department has scrutinized this process to verify that Powerine has approached this neutralization procedure with all diligence and with extreme consideration for the safety of refinery personnel and the public. Powerine now asks that the Fire Department bring the pre-startup safety review to close and give us final approval to begin the neutralization process.

Please feel free to contact me with any questions you may have.

Sincerely,


June M. Christman
Manager - Environmental Engineering

SF:md

cc: Chief Schnabel
Stan Fousha
Bob Wenom
File 31006, Reader File

(P:\fousha\firepnch)

ATTACHMENT A

1. Powerine to provide an MSDS for the neutralization solution to the SFSFD. An MSDS is attached.
2. Powerine to provide a back-up pH probe for the ANU circulating system. The operating personnel will be provided with a hand held pH probe to verify satisfactory operation of the probe in the ANU circulating system. The procedure will be updated to incorporate this addition.
3. Verify the level of water in Lake Seagraves. Lake Seagraves is nearly empty as verified by the SFSFD on Wednesday March 4, 1998.
4. Powerine to provide hydrotest documentation for new pipe. Documentation is attached. The hydrotest was conducted per ASME B31.3 Section 345 standards.
5. Status of Powerine's First Aid Supplies for HF Exposure. Powerine has recently re-stocked its first aid supplies for treating HF exposure to the skin, lungs and eyes.
6. Is secondary containment required for the Baker Tank that contains the neutralization solution? Per the attached MSDS the neutralization solution is non-hazardous. Also, due to the location of the tank, any run-off from a spill would flow to a refinery storm drain and be contained within the refinery's storm water system. None of the solution would be released outside of the refinery boundaries.
7. Is there is a dispersion plate on discharge line of A-P-11 inside of the ANU tank to prevent HF vapors from escaping due to poor mixing? There is no dispersion plate nor is one needed. Mixing and neutralization of the HF occurs primarily in the line where a mixing quill is located. Our experience with ANU systems confirms that no HF acid escapes from the tank during neutralization. Powerine will field verify the lack of HF acid during this procedure with Drager tubes. The procedure will be updated to reflect this addition.
8. Inventory of HF Drager tubes. Powerine has recently re-stocked HF acid Drager tubes
9. Provide data on the ANU tank mixer. Steps in the procedure that require operation of the ANU tank mixer are going to be removed. The mixer primary function is to keep lime in suspension. Since lime will not be used in this process, operation of the mixer is not necessary.

suspension. Since lime will not be used in this process, operation of the mixer is not necessary.

10. Make necessary modifications to allow Rapid Acid Transfer (RAT) if necessary from the storage drum to the mixer settler. As Powerine has stated in the past, this significantly increases the potential for an HF acid leak because of the increased number of flanges, vessels and piping exposed to HF. Powerine's solution to this concern is to neutralize the HF acid as soon as possible thus eliminating any potential problems.
11. Powerine to inspect personal protective equipment. This is an issue all HF Alkylation Unit qualified operators are aware of and trained in. From the first orientation class, operators are instructed to inspect their gear for possible problems before entering the unit and to neutralize and inspect their gear after exiting the unit.
12. Paint flanges on newly installed line with HF acid leak indicating paint. This project is complete.
13. Does Powerine have the appropriate liability insurance coverage in the event of an HF acid release? Yes.
14. All valves except the acid throttling valve (V13) to be open 10% maximum. This will be added to the procedure
15. Will self contained breathing apparatus be worn during the procedure? No. General operating practice for this type of procedure is HF Alky gear class 'C' which does not require supplied breathing air.
16. Is there a back-up plan if V10 fails? Yes. Powerine personnel will follow their emergency response procedures.
17. How often are the HF sensors checked? Approximately once per week. Also HF sensors activate an audible alarm which was last tested on March 3, 1998.
18. Why does the procedure require that the HF Storage drum pressure be at 80 psig? What is the PRV set point on the storage drum? The storage drum will be maintained at 80 psig which is approximately 10 psi greater than the maximum discharge pressure for A-P-11. This will prevent any neutralization solution from back flowing into the storage drum. The PRV set point for the acid storage drum is 150 psig.

19. Designate a decontamination area away from the HF Alky Unit. The decontamination site is approximately 50 yards north of the HF Alky Unit.
20. Is a gurney available to transport an HF acid burn victim? Powerine will leave a Stokes Litter at the decontamination site.
21. Can Powerine provide a truck to transport Fire Department personnel in level 'A' gear from Gate 4 to the Alky Unit? The Fire Department must provide their own transportation.
22. Are Powerine operations personnel Hazwoper qualified? No. Nor are any Powerine personnel going to be handling Hazardous waste.
23. Will the nitrogen purge for the emergency deluge panels be turned on? Yes.
24. How will the HF acid storage drum be depressured? The nitrogen pressure in the storage drum will be depressured using normal methods. The nitrogen containing small amounts of HF and hydrocarbon will be vented to the relief gas scrubber where the HF vapors are neutralized. The remaining gases then flow to the flare.
25. During what days and hours will the neutralization process take place? Monday through Friday from 7:00 am to 4:00 pm
26. What is the operational status of the deluge system? The deluge system is ready for operation. Fire water cannons are positioned to deluge the neutralization area. The fire water tank is full and the fire water pump is operational.
27. Powerine to notify the SFSFD before sending solution to the sewer. Powerine will notify the SFSFD when neutralization reactants are discharged to the sewer.
28. Will the "buddy system" for the operations personnel be incorporated during the procedure? One operator equipped with a radio will be in the unit at all times during the neutralization process. A second operator will be used as relief. They will rotate every two hours or sooner as necessary to prevent heat stress or exhaustion as a result of wearing the personal protective equipment.
29. How will the ANU tank be monitored for hydrocarbons? The top of the ANU tank will be checked periodically for hydrocarbons.

Material Safety Data Sheet

Los Angeles Chemical Company
4545 Ardine Street, South Gate, Ca. 90280
Ph. 213-562-9500 Fax 213-773-0909

Product: ETI BUFFER SOLUTION

Internal ID: LACCO

MSDS No: LACCO2 / 655GF

Data: September 9, 1996

SECTION I. MATERIAL IDENTIFICATION

Trade/Material Name: ETI BUFFER SOLUTION

CAS: NONE ASSIGNED

Chemical Name: AQUEOUS SOLUTION OF SODIUM 2,3,4,5,6 PENTAHYDROXY-HEXANOTE, BUFFERS

SECTION II. INGREDIENTS AND HAZARDS

Ingredient Name:	CAS Number:	Percent:	Exposure Limits:
------------------	-------------	----------	------------------

NO HAZARDOUS INGREDIENTS

N/A

This product contains no listed carcinogens.

SECTION III. PHYSICAL DATA

Appearance & Odor: CLEAR TO PALE BROWN LIQUID. NO ODOR.

Boiling point: 100.3 degrees C

Vapor pressure: 17.5 mm Hg @ 20

Evaporation rate: N/A

Specific gravity (H₂O=1): 1.09 (water=

degrees C

Water solubility (%): N/A

Melting point: N/A

Vapor density (air=1): N/A

% volatile by volume: N/A

pH: 9.0 - 10.0

Molecular weight: N/A

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point (method): N/A

Limits: LEL %: N/A

UEL %: N/A

Extinguishing Media: WATER, CARBON DIOXIDE, FOAM, HALOGEN.

Special fire-fighting procedures: N/A

SECTION V. REACTIVITY DATA

Material is stable-- Hazardous polymerization cannot occur

Chemical incompatibilities: NEUTRALIZES STRONG ACID, STRONG OXIDIZERS

Hazardous decomposition Products: NONE

Material Safety Data Sheet

Los Angeles Chemical Company
4545 Ardine Street, South Gate, Ca. 90280
Ph. 213-562-9500 Fax 213-773-0909

Product: ETI CLEANING & GAS
FREEING SOLUTION
Internal ID: LACCO

MSDS No: LACCO2 / 655GF
Date: September 9, 1996

SECTION VI. HEALTH HAZARD INFORMATION

This product is not considered a carcinogen

Signs & symptoms of overexposure:

Eye contact: MAY CAUSE EYE DAMAGE.

Skin contact: MAY CAUSE IRRITATION FOR SUSCEPTIBLE INDIVIDUALS. WEAR PROTECTIVE CLOTHING.

Ingestion: MAY CAUSE TOXIC EFFECTS IF LARGE AMOUNTS ARE SWALLOWED. NO EFFECTS ARE KNOWN FROM (RARE) ACCIDENTAL SWALLOWING.

First aid:

Eye contact: WEAR EYE PROTECTION. FLUSH IMMEDIATELY WITH PLENTY OF WATER.

Skin contact: WASH THOROUGHLY WITH WATER IF EXPOSURE OCCURS.

Inhalation: N/A

Ingestion: AVOID SWALLOWING, GET MEDICAL ATTENTION IF ADVERSE EFFECTS OCCUR.

SECTION VII. SPILL, LEAK AND DISPOSAL PROCEDURES

Spill / Leak procedures: COLLECT AS MUCH AS POSSIBLE FOR USE OR DISPOSAL. FLUSH REMAINDER INTO NORMAL DRAINAGE WITH COPIOUS AMOUNTS OF WATER.

Waste management / Disposal: IN ACCORDANCE WITH APPLICABLE REGULATIONS. NORMALLY, CAN BE FLUSHED DOWN SEWERS. NOT A HAZARDOUS WASTE UNDER RCRA CRITERIA.

EMPTY CONTAINERS: NO SPECIAL PRECAUTIONS.

SECTION IX. SPECIAL PRECAUTIONS

DOT Class: Non regulated by D.O.T.

Prepared/revised by: B. Martinez

September 9, 1996

Though the information contained herein is believed to be accurate as of the date hereof, Los Angeles Chemical Company makes no warranties or representations as to the accuracy or suitability of such information for application to purchaser's intended purposes or for the consequences of its use, and assumes no liability or responsibility whatsoever which may arise out of purchaser's reliance thereon.



POWERLINE Oil Company Standard Work Request

THIS FORM IS FOR STANDARD MAINTENANCE ONLY

AREA B	UNIT ALKY	COST CENTER	CRAFT CODE M	DATE GENERATED 2/11/98	DATE AVAILABLE 2/11/98	DUE DATE 2/12/98	PRIORITY
EQUIPMENT NAME OR SERVICE Temp. HF Neut. Line							EQUIPMENT NUMBER
LOCATION							REGULAR <input checked="" type="checkbox"/> CONTROL NUMBER OVERTIME <input type="checkbox"/> CALL OUT <input type="checkbox"/> SAFETY ITEM? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> DOES REQUEST REQUIRE MODIFICATION? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> TECH SERVICES SIGNATURE <i>Stan Turk</i>

DESCRIPTION OF PROBLEM

Fabricate and install the piping detail per the attached isometric drawing and UOP-801 (HF-2) specifications.

Contact S. Fousha with questions.

SAFETY PRECAUTIONS					
<input type="checkbox"/> HEARING PROTECTION	<input type="checkbox"/> GOGGLES	<input type="checkbox"/> FRESH AIR	<input type="checkbox"/> BLIND	<input type="checkbox"/> BLOCK IN & DEPRESSURE	<input type="checkbox"/> CONFINED SPACE PERMIT
<input type="checkbox"/> NEOPRENE GLOVES	<input type="checkbox"/> RESPIRATOR	<input type="checkbox"/> THERMAL	<input type="checkbox"/> TAG OUT	<input type="checkbox"/> DOUBLE-BLOCK & BLEED	<input type="checkbox"/> ENTRY PERMIT
<input type="checkbox"/> "ALKY" BOOTS	<input type="checkbox"/> FACE SHIELD	<input type="checkbox"/> CHEMICAL	<input type="checkbox"/> LOCK OUT	<input type="checkbox"/> ALKY GEAR CLASS:	<input type="checkbox"/> HOT WORK PERMIT
OTHER					

REQUESTED BY: (PRINT NAME) S. Fousha	SUPERVISOR'S SIGNATURE <i>[Signature]</i>	FINAL APPROVAL <i>[Signature]</i>
--	--	--------------------------------------

WORK PERFORMED HYDROTESTED LINE'S PER ATTACHED SPECIFICATION SHEETS

ESTIMATED MAN-HOURS ACTUAL MAN-HOURS

WORK PERMIT SECTION

ONLY SIGN ON TO THE WORK PERMIT AFTER THE CHECK-LIST ITEMS HAVE BEEN INITIALED AND ALL INVOLVED AGREE TO THE SAFETY OF THE JOB. THIS IS TO BE DONE FOR EACH SIGN ON.

INITIALS: CRAFTSMAN/OPERATOR	1	2	3	4	5	INITIALS: CRAFTSMAN/OPERATOR	1	2	3	4	5
EQUIPMENT HAS BEEN DEPRESSURED, PURGED, DRAINED, NEUTRALIZED.	<i>[Signature]</i>	/	/	/	/	EQUIPMENT AND AREA IS CLEAN OF COMBUSTIBLES.	<i>[Signature]</i>	/	/	/	/
EQUIPMENT HAS BEEN ISOLATED, DISCONNECTED, OR BUNDED.	/	/	/	/	/	ALL DIVISIONS NOTIFIED OF FLARE-ENTRY OR OTHER PRECAUTIONS	/	/	/	/	/
TAG OUT, LOCK OUT PROCEDURES COMPLETED, MOTORS BUMPED.	/	/	/	/	/	QUALIFIED MAN-WATCH ON SITE.	/	/	/	/	/
ALL APPROPRIATE SAFETY PERMITS AND EQUIPMENT PROVIDED.	/	/	/	/	/	QUALIFIED FIRE-WATCH ON SITE.	/	/	/	/	/

SIGN ON: SITE INSPECTED AND CONSIDERED SAFE FOR WORK

SIGN OFF: JOB INCOMPLETE; SITE INSPECTED AND CONSIDERED "SAFE & OPERABLE" (O) OR "SAFE, NOT OPERABLE" (N) (circle one)

1 OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE 2/10/98	O N	OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE
2 OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE	O N	OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE
3 OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE	O N	OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE
4 OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE	O N	OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE
5 OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE	O N	OPERATOR'S SIGNATURE <i>[Signature]</i> CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE

SIGN ON'S CONTINUED ON ADDITIONAL SHEET YES <input type="checkbox"/> NO <input type="checkbox"/>	WORK PERMIT CLOSED: CRAFT COMPLETE, WORK SITE CLEAN	OPERATOR'S SIGNATURE <i>Stan Turk</i>	CRAFTSMAN'S SIGNATURE <i>[Signature]</i>	DATE 2-11-98
--	---	--	---	------------------------



TO ANU

FM
A-P-12

REMOVE SPOOL PIECE,
Install new line

EXISTING
NEW
0.5'

16'

Disconnect Existing
Line, Install new Line

EXISTING HF
LOADING LINE

EXISTING
NEW
1.5'

1" C.S.

10'

Bill of Material

- 2- 1" x 2" reducer BW A-105
- 1- 2" short Rad. elbow BW A-105
- 40'- 1" Sch 80 A-105 pipe A-105
- 2- 1"-3000 Class Coupling SW A-105
- 2- 2" 300lb Flanges BW RF A-105
- 6- 1" 300lb Flanges SW RF A-105
- 6- 1" 3000 Class elbow SW A-105
- 6'- 2" Sch 80 pipe A-105 A-105
- All necessary AIK Approved bolts/studs/gaskets
- 1- 1" 300lb Check valve, flanged RF

Notes

- Hydrotest to 450 psi
- N₂ dry line after Hydrotest
- Brinnell Hardness test all 2" pipe welds, < 200
- Field Verify all dimensions
- Install gussets on all 1" → 2" connections
- Liquid penetrant test all socket welds
- Butt-weld 1 1/2" and larger
- Build to UOP HF-2 specs

TEMP. HF NEUT. LINE

POWERINE OIL COMPANY

12354 LAKELAND RD., SANTA FE SPRINGS, CA. 90670

SCALE None	DRAWN BY SPF	DRAWING NO.
DATE 2-11-98	CHECKED BY	
	APP'D	



25 East Algonquin Road • Des Plaines, Illinois 60017-5017 • U.S.A.

PROJECT SPECIFICATION

NUMBER REVISION

— 801 —

SHEET OF

BY APP'D

DATE

PIPING

HF ACID SERVICE NOTES

A. GENERAL

1. Piping to instruments and gage glasses, drains and exhauster connections shall follow the pipe class for the highest severity connecting process line. Where Pipe Class HF-2 is indicated, the valves shall be the "T" type specified in that class.
2. The use of pipe dope on gaskets, flanges, screwed fittings, and orifice plates is forbidden. Screwed connections shall be made up with teflon tape except for high point vents which shall be made up dry and backwelded after hydrostatic testing.
3. The outside surface of all flanges including valve bonnets in Pipe Classes HF-1, 2, 4, and 5 shall be painted with orange HF Indicating Paint #220-Y-7 manufactured by Valspar Corporation, 901 North Greenwood, Kankakee, Illinois 60901.
4. Asbestos or asbestos filled gaskets and asbestos packing are not permitted in Pipe Classes HF-1, 2, 4, 5, 6 and 7.
5. Gaskets or valves containing stainless steel elements which contact the process fluid are not permitted in Pipe Classes HF-1, 2, 4 and 5.
6. All 3/4 and 1 inch connections to the larger lines shall be reinforced by gussets to increase their structural integrity. All 3/4 inch pipe should be adequately supported by means of hangers or braces.
7. All welds (except socket weld) in Pipe Classes HF-2, 4, and 5 shall have a maximum weld hardness of 200 Brinell. At least one hardness reading shall be taken of those piping weld joints with the reading taken near the center of the weld. Readings shall be made with a telebrineller or equal instrument calibrated at 200 Brinell. Where weld hardnesses exceed the 200 Brinell maximum, such welds must be post weld heat treated for one hour minimum at a temperature of no less than 1100°F (594°C). Care must be exercised during heat treatment not to damage teflon components.
8. All socket welds in Pipe Classes HF-2, 4, and 5 shall be liquid penetrant inspected per ASME B31.3 Paragraph 344.4.
9. All pipe girth welds in Pipe Class HF-1 and HF-2 shall be subjected to full radiography using the method outlined in ASME B31.3, Paragraph 344.5.



25 East Algonquin Road • Des Plaines, Illinois 60017-5017 • U.S.A.

PROJECT SPECIFICATION

NUMBER

REVISION

- 801 -

SHEET

OF

BY

APP'D

DATE

PIPING

HF ACID SERVICE NOTES

(A. GENERAL - Continued)

10. All pipe girth welds in Pipe Classes HF-4 and 5 shall be subjected to a 10% random radiography using the method outlined in ASME B31.3, Paragraph 344.5. Ten percent is defined as one weld in ten.
11. Contractor is responsible for matching flanges at equipment.
12. Minimum line size except instrument connections in Pipe Class HF-2 shall be 1 inch including all low point drains and vents. Due to the nature of the process, iron fluoride solids are created. These solids can accumulate and plug small valves. To minimize this potential, all 1 inch drain connections in Pipe Class HF-2 shall be connected tangentially to the process piping as per UOP Standard Drawing 8-113. In addition, all gate valves shown with 3/4 inch bleeder valve on the P&ID should be oriented such that these bleeders are located in a horizontal plane.
13. To avoid liquid traps, all reducers in horizontal runs shall be eccentric and oriented with the flat side down.
14. Ring joint flanges with soft iron rings (monel rings for Pipe Class HF-1) are an acceptable alternate for the raised face flanges specified in the Pipe Classes.
15. The use of unions is forbidden.

B. VALVES

1. All valves specified for Pipe Classes HF-1 and 2 shall be shipped free of grease and provided with suitable protection of grease fittings and stems to prevent shipping damage. Grease injector threads shall be made up with Teflon tape.
2. Contractor shall provide two Delta Model No. 1002 grease guns and a sufficient quantity of "desco 410 Polymel" grease (for HF Alkylation Units) or "Paromax 500" grease (for Detergent Alkylate Units) to grease seal the valves in the field after installation. The grease gun and grease are manufactured by Hi-Port Industries, Inc., Chemola Division, 409 E. Wallisville Road, P.O. Box 755 Highlands (Houston), Texas 77562. One volume of 1,1,1-Trichloroethane must be supplied for every ten volumes of "Paromax 500" grease purchased, to be used as a thinner as required to give extrusion at 7000 psig.

NOTE—These data are confidential and the property of UOP and shall not be disclosed to others or reproduced in any manner or used for any purpose whatsoever except by written permission or as provided in a signed agreement with UOP relating to such data.



25 East Algonquin Road • Des Plaines, Illinois 60017-5017 • U.S.A.

PIPING

PROJECT SPECIFICATION

NUMBER

REVISION

— 801 —

SHEET

OF

BY

APP'D

DATE

HF ACID SERVICE NOTES

(B. VALVES - Continued)

3. Bosses on valves shall not be drilled unless indicated on the Piping and Instrument Diagrams. Gate valves shown with a 3/4 inch bleeder valve on the Piping and Instrument Diagrams shall be provided with a 3/4 inch Schedule 80 pipe nipple shop socket welded to both the larger valve and to a 3/4 inch "T" gate valve, Pacific #3655/6-HF8T or equal. If globe valve is required, use Pacific #3669/8-HF8T or equal. Bleeder connection shall be installed in the cavity between two seating surfaces of the gate valve.
4. All socket-weld valves indicated as plugged shall have the plugged end screwed and fitted with a hex-head solid steel screwed plug.
5. Valve Suppliers

Restricted acceptance - valves listed below are acceptable provided refinery practice permits use of soft-seated plug valves that have successfully passed API 607 testing.

Refiner approval mandatory.

Pipe Class HF-2

Plug Valves
(temp. limit
to 350°F/
177°C)

Class 300 flanged cast monel ASTM A 494 Grade M-35-1 body and plug, firesealed construction with ASTM A193 B7M studs and ASTM A194 Grade 2HM nuts. Each valve body casting must meet radiographic examination of MSS-SP 54.
1/4" to 18" Durco G4Z31 or Tuflin Fig. 0367HF.

C. OTHER NOTES

1. Special check valves in Nitrogen Supply Header shall be class 150 cast flanged ASTM A216 Grade WCB, with monel trim. Duo-Chek Marlin (Stockham) 15 SPF-772.
2. All flanges intended for use with spiral wound gaskets shall have a flange surface finish of 125 Ra minimum to 250 Ra maximum. Finishes shall be judged by visual comparison with surface finish roughness standards conforming to ANSI/ASME B46.1. It is the Contactor's/Purchaser's responsibility both to comply with the above finish requirements and to assure that such flange finishes be protected from damage during shipping, storage, and installation.



25 East Algonquin Road • Des Plaines, Illinois 60017-5017 • U.S.A.

PIPING

PROJECT SPECIFICATION

NUMBER

REVISION

— 801 —

SHEET

OF

BY

APP'D

DATE

PIPE CLASS

HF-2

SERVICE

HYDROFLUORIC ACID

MATERIAL AND RATING
CARBON STEEL
CLASS 300 RF

CORROSION ALLOWANCE

.125"

TEMPERATURE RANGE

-20°F THRU 650°F/-29°C THRU 343°C

PRESSURE RANGE

PER ANSI B16.5

Flanges

ANSI Class 300 forged raised face. ASTM A105.
1" and smaller socket weld.
1½" to 24" welding neck bored to suit pipe.

Gaskets

Spiral wound monel with grafoil filler and steel inner retaining ring.

Fittings

Class 3000 forged socket weld. ASTM A105.
Welding same thickness as pipe. ASTM A234 WPB or WPB-W
Weldolet Welding Fittings. ASTM A105.

Valves

Cast ASTM A216 Grade WCB or forged ASTM A105.

Valves Marked "A"
on Piping and
Instrument
Diagrams

These valves have a grease seal stem and seat, grafoil packing, monel trim, and ring type bonnet gasket with ASTM A193 B7M studs and ASTM A194 2HM nuts.

Globe

½" to 1" Class 800 Pacific 667-HF8 or Strack 10.414.01.
½" to 1" Class 600 Pacific 665-HF8 (if flanged).
1½" to 8" Class 300 Pacific 366-HF8, Powell 3031-HF2A or
Petrolvalves 1022.UHF2A.

Valves Marked "T"
on Piping and
Instrument
Diagrams
(Note 1 & 3)

These valves have a grease seal stem, teflon insert in seat, grafoil packing, monel trim, and ring type or spiral wound monel with grafoil filler bonnet gasket with ASTM A193 B7M studs and ASTM A194 2HM nuts.

Globe

½" to 1" Class 800 Pacific 3669G-HF8T, Petrolvalves F102.UHF2-T or Strack 10.414.14.
½" to 1" Class 600 Powell 6031-HF2T or Vogt SW-42241-HF2.
½" to 1" Class 300 Pacific 3367G-HF8T (if flanged)
1½" to 10" Class 300 Pacific 360RG-HF8T, Powell 3031-HF2T, Petrolvalves 1022.UHF2 or Strack 10.414.15.

Gate

½" to 1" Class 800 Pacific 3656G-HF8T, Petrolvalves F101.UHF2-T or Strack 10.414.03.
½" to 1" Class 600 Powell 1972 HF2T or Vogt SW-43211-HF2.
1½" to 24" Class 300 Pacific 350RG-HF8T, Pacific 350RG-HF8-BTT or Petrolvalves 1012.UHF2.
2" to 10" Class 300 Powell 3003N-HF2T or Strack 10.414.08.
14" to 24" Class 300 Powell 3003-HF2T.

NOTE—These data are confidential and the property of UOP and shall not be disclosed to others or reproduced in any manner or used for any purpose whatsoever except by written permission or as provided in a signed agreement with UOP relating to such data.



25 East Algonquin Road • Des Plaines, Illinois 60017-5017 • U.S.A.

PIPING

PROJECT SPECIFICATION

NUMBER

REVISION

— 801 —

SHEET

OF

BY

APP'D

DATE

PIPE CLASS

HF-2

SERVICE

HYDROFLUORIC ACID

MATERIAL AND RATING

CARBON STEEL
CLASS 300 RF

CORROSION ALLOWANCE

.125"

TEMPERATURE RANGE

-20°F THRU 650°F/-29°C THRU 343°C

PRESSURE RANGE

PER ANSI B16.5

Valves Marked "M" These valves have monel trim and ring type or spiral wound on Piping and monel with grafoil filler bonnet gasket with ASTM A193 B7M Instrument studs and ASTM A194 2HM nuts.

Check ½" to 1" Class 800 Pacific 3682-HF8, or Strack 10.414.09.
½" to 1" Class 600 Vogt SWB-43721-HF2 or Powell 6060-HF2.
1½" to 24" Class 300 Pacific 380R-HF8, Powell 3061-HF2,
Petrolvalves 1032.UHF2 or Strack 10.414.11.

Bolting Stud bolts ASTM A193 Grade B7M threaded full length with ASTM A194 Grade 2HM nuts.

Pipe ASTM A53 Grade A or B seamless.
Contractor to calculate wall thickness. However, 2 inches and smaller shall be no less than Schedule 80.

Notes

1. Valves marked "T" are not suitable for design temperatures above 500°F (260°C).
2. No substitutions are permitted for valves specified above.
3. Metal to metal seating arrangement is an acceptable alternate for ½" to 1" gate valves.

Santa Fe Springs Fire Department

SF SFD

To: JUNE Christman

From: DAVE Klunk

Number of pages including
this one: 5

Fax Number: 9038911

Date: 3/5/98

Comments: Hi JUNE! Here's the
latest — it shouldn't
BE much different
FROM what we've
ALREADY DISCUSSED.
Thanks, DAVE

Copy to follow in mail:

11300 Greenstone Ave • Santa Fe Springs •
CA • 90670
Phone (562) 944-9713 FAX (562) 941-1817

Following ARE concerns identified by SFSFD for Powerline Oil Co. neutralization of HF. PLEASE ADD to,

- Can HF be transferred to any other vessels or tanks on site?
- All lines which may contain HF must be painted w/ HF sensitive paint. (color change)
- Does this operation fall within the Refinery's insurance policy?
- All HF containing process ^{lines w/} valves must remain 9/10ths closed during neutralization process so that in the event of release they can be quickly closed.
- What's the operational status of the water suppression/deluge system. Cannons pre-positioned into incident areas, water system OK? pump & tank OK? hose lines etc?
- What's the level of P.P.E. POC staff will wear doing routine monitoring, maintenance and operation?
P.P.E. level for emergency's such as HF leak?
- How many persons will be in HF PPE
Routine?
Emergency?
AIR SUPPLY/RESPIRATOR?

- Is there Adequate mixing in the A.N.V.?
 - ~~inlet~~^{outlet} of reacted solution separated from intake
 - outlet and intake lines are well below ~~bottom~~ liquid level in tank
- All process lines have been pressure tested to what psi? _____ maintain psi for how long? _____
- NEED REDUNDANT safety for pH probe.
Second pH probe in ANU or ~~a~~ frequent sampling with pH meter.
- P.O.C. to notify us when reactants are discharged to sanitary sewer.
- Top of A.N.V. tank must be monitored for pH, HF acid, combustible gas.
frequency will be? _____
- HF AREA workers must maintain visual contact with each other or outside ~~an~~ observer. (2 in 2 out Buddy system)

- Determine status of SEAGRAVES pond.
Pond should contain $< 5\%$ water
- Provide MSDS for neutralizer agent and contact for supplier.
current supply will neutralize how much HF?
- 1ST Aid equipment will be located close to work area. (~~see~~ control room)?
Need Stokes basket & Gurney.
- HF sensors must activate audible alarm or person must monitor display in control room.
- Notify W.P.D., SFS PW YARD, close proximity BUSINESSES.
- Compatibility of P.O.C.^s/SFSFO/VERNON F.D. Suits, gloves, boots to HF?
- Does neutralization of HF require a DTSC hazardous waste treatment permit? ^{DTSC contact}
- What do we do if main HF tank valve fails? VIO
Can this valve be painted with a high visibility color for easy differentiation?

- HF storage tank pressure is inc.? from ≈ 30 psi to 80 psi, how is tank depressured?
 - excess gas goes to scrubber?
 - HF content of gas?
- What will days and hours of HF neutralizing be?
- DATE of ~~main~~ calibration of gas sensors?
- Last test of audible alarms?
- HF acid tank pressure relief valves activate at what pressure? _____ and where does the off gas go? _____ and how functional is that scrubber system?
- Set up emergency DE-Con which will allow for full body DE-con - open area DE-con on Gurney.
- SFSFD / Vernon / W. P.D. will be on scene prior to initial neutralization start up.
- Does P.I.H. have Calcium Glutamate and DE-con AREA?